

CLAIMS

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1. Method of compressing a digital format in which information representing a physical quantity is accompanied by predictable data and whose value is independent of that of the information representing a physical quantity, characterised in that it includes an operation (1103) of reducing the number of said predictable data the data and information representing a physical quantity resulting from this reduction operation being capable of allowing the reconstitution of predictable data accompanying the information representing a physical quantity, in accordance with the said digital format.

2. Compression method according to Claim 1, characterised in that the reduction operation (1103) includes:

- a step of removing predictable data, and
- a step of inserting so-called substitution data, whose number is less than the number of data removed during the removal step.

3. Compression method according to Claim 2, the digital format including successive repetitions of data and/or iterative series of data, characterised in that

- during the removal operation (1103), at least two data items of said repetitions or said series are removed, and
- during the insertion operation, at least one data item of said repetitions or said series is inserted, in a header relating to all the information to be transmitted.

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4. Compression method according to either one of Claims 2 or 3, characterised in that, during the removal operation (1103), reserved data are removed.

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5. Compression method according to any one of Claims 2 ^{or 3} _{to 4,} characterised in that, during the removal operation (1103), identifiers of parts of a set of data are removed.

6. Compression method according to Claim 5, characterised in that, during the operation of inserting so-called substitution data, an identifier for at least one of the parts of said set of data is inserted.

a 5 7. Compression method according to any one of Claims 1 to ³~~6~~, characterised in that the said format is the DV format.

a 8. Compression method according to any one of Claims 1 to ³~~7~~, characterised in that it includes an operation of transmitting at a distance data resulting from the reduction operation, over a wireless transmission channel.

a 9. Compression method according to any one of Claims 1 to ³~~8~~, characterised in that it includes an operation of inserting data and information resulting from said reduction operation, in a frame corresponding to a wireless communication protocol.

a 10. Compression method according to ^{Claim 8}~~either one of Claims 8 or 9~~, characterised in that it includes an operation of transmitting at a distance data resulting from the reduction operation, over a radio transmission channel.

a 11. Compression method according to ^{Claim 8}~~either one of Claims 8 or 9~~, characterised in that it includes an operation of transmitting at a distance data resulting from the reduction operation, over an optical transmission channel.

a 25 12. Compression method according to any one of Claims 1 to ³~~7~~, characterised in that it includes an operation of recording, on a data medium, data resulting from the reduction operation.

a 30 13. Compression method according to any one of Claims 1 to ³~~12~~, characterised in that it includes, as a preliminary to said reduction operation, an operation of reading predictable data and information representing a physical quantity, an operation performed by a reading of data in the DIF format.

14. Compression method according to any one of Claims 1 to ³~~13~~, characterised in that it includes, as a preliminary to said reduction operation, an operation of reading predictable data and information of representing a physical quantity, on an IEEE 1394 bus.

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13| 15. Data and information processing method, characterised in that it includes:

- an operation of estimating the need to reduce the quantity of data and information representing a physical quantity, and
- when the said reduction is necessary, implementing a compression method as briefly disclosed above.

10| 16. Processing method according to Claim 15, characterised in that it also includes:

- an operation of estimating the need for compression of information representing a physical quantity, and
- when said compression is necessary, an operation of compressing the information representing a physical quantity.

15| 20 17. Method for transmitting information representing a physical quantity, characterised in that it includes:

- an operation of reducing the number of said predictable data, the data and information representing a physical quantity resulting from this reduction operation being able to allow the reconstitution of predictable data accompanying the information representing a physical quantity, in accordance with said digital format,
- an operation of receiving said information and said data resulting from the reduction operation,
- an operation of reconstituting predictable data in accordance with said digital format, said reconstituted predictable data representing said received data and being independent of said information and greater in number than the number of data items received, and

- an operation of organising said reconstituted predictable data and said information, in accordance with said digital format.

18. Method of recording information representing a physical quantity, characterised in that it includes:

B1 - an operation of reducing the number of said predictable data, the data and information representing a physical quantity resulting from this reduction operation being able to allow the reconstitution of predictable data accompanying the information representing a physical quantity, in accordance with said digital format,

10 - an operation of recording data and information representing a physical quantity resulting from this reduction operation, on a recording medium,

15 - an operation of reading said information and said data resulting from the reduction operation, on said recording medium,

20 - an operation of reconstituting predictable data in accordance with said digital format, said reconstituted predictable data representing said read data and being independent of said information and greater in number than the number of received data, and

25 - an operation of organising said reconstituted predictable data and said information, in accordance with said digital format.

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a 19. Method according to ~~any one of Claims 1 to 18~~, characterised in that it includes an operation of determining the reduction mode, during which at least one of the data items and/or information items to be transmitted is taken into account in order to determine a reduction mode and in that, during the reduction operation, the reduction mode determined during the reduction mode determination operation is used.

18 or 19

a 20. Method according to any one of Claims ~~1 to 19~~, characterised in that the data resulting from the reduction operation include at least one data item representing a reduction mode used during the operation of reducing the predictable data and/or the transmitted information.

21. Method of receiving information representing a physical quantity accompanied by data whose value is independent of that of said information, said information and data being intended to be conformed according to a predetermined digital format, characterised in that it includes:

5 - an operation of reading at least part of said received data,
 - an operation of determining predictable data representing the received
 data and whose value is independent of that of the information, said predictable data
 being greater in number than the number of received data, and
B1 - an operation of organising said predictable data and said information,
10 said organisation being in accordance with said digital format and causing
 predictable data and information to alternate.

22. Method of receiving information representing a physical quantity, organised in accordance with a first structure including said information and so-called "structural" data, in frames in accordance with a second structure and also including complementary data, characterised in that it includes:

20 - an operation of marking said information in said frames, and
 - an operation of marking said structural data in said frames,
 - an operation of determining so-called "predictable" data whose value is
 independent of said information and said complementary data, said predictable data
 representing structural data,
 - an operation of organising, in accordance with a third structure, said
 information and said predictable data.

25 23. Method of receiving information according to Claim 22, characterised
 in that, during the marking operation, the second structure is that of a wireless
 transmission protocol.

30 24. Method of receiving information according to either one of Claims 22
 or 23, characterised in that, during the organisation operation, the third structure is
 that of a protocol for transmitting or storing digital images.

25. Method of transmitting information representing a physical quantity, characterised in that it includes:

- an operation of determining data intended to accompany said information, data whose value is independent of that of said information,
- 5 - an operation of sending or storing said information and said data,
- an operation of receiving or reading, respectively, said information representing a physical quantity, accompanied by said data,
- an operation of reading at least part of said received data,
- an operation of determining predictable data representing received data
- 10 and whose value is independent of that of the information, said predictable data being greater in number than the number of received data, and
 - an operation of organising said predictable data and said information, said organisation being in accordance with said digital format alternating predictable data and information.

15 26. Device for compressing a digital format in which information representing a physical quantity is accompanied by predictable data whose value is independent of that of the information representing a physical quantity, characterised in that it includes a means of reducing the number of said predictable data, the data and information representing a physical quantity resulting from this reduction being able to allow the reconstitution of predictable data accompanying the information representing a physical quantity, in accordance with said digital format.

20 27. Compression device according to Claim 26, characterised in that the reduction means has:

- a means of removing predictable data, and
- a means of inserting so-called substitution data, whose number is less than the number of data removed by the removal means.

30 28. Compression device according to Claim 27, the digital format containing successive repetitions of data and/or iterative series of data, characterised in that:

- the removal means is adapted to remove at least two data of said repetitions or said series, and

- the insertion means is adapted to insert at least one data of said repetitions or said series, in a header relating to all the information to be transmitted.

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B1 29. Compression device according to either one of Claims 27 or 28,
characterised in that removal means is adapted to remove reserved data.

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10 30. Compression device according to any one of Claims 27 ^{or 28} ~~to 29,~~
characterised in that the removal means is adapted to remove identifiers of parts of a
set of data.

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31. Compression device according to Claim 30, characterised in that the
means of inserting so-called substitution data is adapted to insert an identifier for at
least one of the parts of said set of data.

32. Compression device according to any one of Claims 26 to ²⁸ ~~31,~~
characterised in that said format is the DV format.

33. Compression device according to any one of Claims 26 to ²⁸ ~~32,~~
characterised in that it includes a means of transmitting at a distance data resulting
from said reduction, over a wireless transmission channel.

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25 34. Compression device according to any one of Claims 26 to ²⁸ ~~33,~~
characterised in that it includes a means of inserting data and information resulting
from said reduction, in a frame corresponding to a wireless communication protocol.

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30 35. Compression device according to ^{Claim 33} ~~either one of Claims 33 or 34;~~
characterised in that it includes a means of transmitting at a distance data resulting
from said reduction, on a radio transmission channel.

Claim 33

36. Compression device according to either one of Claims 33 or 34, characterised in that it includes a means of transmitting at a distance data resulting from said reduction, on a optical transmission channel.

37. Compression device according to any one of Claims 26 to ²⁸~~32~~, characterised in that it includes a means of recording, on a data medium, data resulting from said reduction.

38. Compression device according to any one of Claims 26 to ²⁸~~37~~, characterised in that it includes a means of reading data in the DIF format.

39. Compression device according to any one of Claims 26 to ²⁸~~38~~, characterised in that it has means of reading on an IEEE 1394 bus.

40. Data and information processing device, characterised in that it has:
- a means of estimating the need for reduction in the quantity of data and information representing a physical quantity, and
- a compression device according to any one of Claims 26 to ²⁸~~30~~,
- the estimation means being adapted to use said compression device
when it considers that said reduction is necessary.

41. Processing device according to Claim 40, characterised in that it also has:
- a means of estimating the need for compression of information representing a physical quantity, and
- a means of compressing information representing a physical quantity,
- the estimation means being adapted to use said compression device when it considers that said compression is necessary.

42. Device for receiving information representing a physical quantity accompanied by data whose value is independent of that of said information, said information and data being intended to be conformed according to a predetermined digital format, characterised in that it has:

- a means of reading at least part of said received data,
 - a means of determining predictable data representing received data and whose value is independent of that of the information, said predictable data being greater in number than the number of received data, and

5 - a means of organising said predictable data and said information, said organisation being in accordance with said digital format and causing predictable data and information to alternate.

B1 43. Device for recording information representing a physical quantity,

10 characterised in that it includes:

- a means of reducing the number of said predictable data, the data and information representing a physical quantity resulting from this reduction being able to allow the reconstitution of predictable data accompanying the information representing a physical quantity, in accordance with said digital format,

15 - a means of recording data and information representing a physical quantity resulting from this reduction, on a recording medium,

- a means of reading said information and said data resulting from the reduction operation, on said recording medium.

20 - a means of reconstituting predictable data in accordance with said digital format, said reconstituted predictable data representing said read data and being independent of said information and greater in number than the number of received data, and

- a means of organising said reconstituted predictable data and said information, in accordance with said digital format.

25 44. Device for decompressing information representing a physical quantity organised in a first structure including said information and so-called "structural" data, in frames in accordance with a second structure and also including complementary data, characterised in that it has:

30 - a marking means, adapted:

- to mark said information in said frames, and
- to mark said structural data in said frames,

- a means of determining so-called "predictable" data whose value is independent of said information and said complementary data, said predictable data representing structural data,

5 - a means of organising, in a third structure, said information and said predictable data.

13 | 45. Information decompression device according to Claim 44, characterised in that the marking means is adapted to mark said information and said structural data in a second structure which is that of a wireless transmission
10 protocol.

15 | 46. Information decompression device according to either one of Claims 44 or 45, characterised in that the organisation means is adapted to organise said information and said predictable data in a third structure which is that of a digital image storage or transmission protocol.

20 | 47. Network, characterised in that it has:
- a transmission medium adapted to support the transmission of the data and information representing a physical quantity resulting from said removal, and
- at least one device according to any one of Claims 26 to 46.

48. Computer, characterised in that it has a device according to any one of Claims 26 to 46.

25 | 49. Camera, characterised in that it has a device according to any one of Claims 26 to 46.

50. Printer, characterised in that it has a device according to any one of Claims 26 to 46.

30 | 51. Image storage system, characterised in that it has a device according to any one of Claims 26 to 46.

52. Image display system characterised in that it has a device according
to any one of Claims 26 to 46.